Amendments to the Claims

Please cancel Claim 17. Please amend Claims 1-16 and 18-21. Please add new Claims 22-30. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing

1. (Currently amended) A method of differentiating HCV genotype 1 (HCV-1) from HCV genotypes 2 and 3 (HCV-2 and HCV-3) in a sample, comprising:

subjecting the sample to an amplification reaction using at least one primer that ~~which~~ anneals specifically to the 5' noncoding region (5' NCR) of the HCV-1 genome; and

detecting the product of the amplification reaction.

2. (Currently amended) The method of Claim ~~A method as claimed in claim~~ 1, wherein the amplification reaction is the polymerase chain reaction (PCR) or reverse transcriptase polymerase chain reaction (RT-PCR).

3. (Currently amended) The method of Claim ~~A method as claimed in claim~~ 1 ~~or claim 2~~, further comprising:

detecting whether any HCV genotype is present in the sample by subjecting the sample to an amplification reaction using primers that ~~which~~ anneal to a region of the 5' NCR that ~~which~~ is conserved between all HCV genotypes; and

detecting the product of this amplification reaction.

4. (Currently amended) The method of Claim ~~A method as claimed in claim~~ 3, wherein the primers have the following sequences:

Forward: 5' CGT CTA GCC ATG GCG TTA G 3' (*UTR-L2*, SEQ ID NO:3)

Reverse: 5' GCA GTA CCA CAA GGC CTT TCG C 3' (*UTR-R2*, SEQ ID NO:2).

5. (Currently amended) The method of Claim 1 ~~A method as claimed in any preceding claim~~, further comprising subjecting the sample to a preliminary amplification reaction to isolate HCV material using primers universal for all HCV genotypes.

6. (Currently amended) The method of Claim ~~A method as claimed in claim~~ 5, wherein the primers comprise the following sequences:

Forward: 5' GGA ACT ACT GTC TTC ACG C 3' (*UTR-L1*, SEQ ID NO:4)

Reverse: 5' ACG GTC TAC GAG ACC TC 3' (*UTR-R1*, SEQ ID NO:5).

7. (Currently amended) The method of Claim ~~A method as claimed in claim~~ 7, wherein the at least one primer which anneals specifically to the 5' noncoding region (5' NCR) of the HCV-1 genome is a forward primer and the reverse primer comprises the sequence:

CCI CTC AAT GCC TGG AG 3' (*Spec-1*, SEQ ID NO:1).

8. (Currently amended) The method of Claim ~~A method as claimed in claim~~ 7, wherein the at least one primer that ~~which~~ anneals specifically to the 5' noncoding region (5' NCR) of the HCV-1 genome is a forward primer and the reverse primer comprises the sequence:

5' GCA GTA CCA CAA GGC CTT TCG C 3' (*UTR-R2*, SEQ ID NO:2).

9. (Currently amended) The method of Claim 1 ~~A method as claimed in any preceding claim~~, wherein detection of the ~~product of the or each~~ amplification reaction product is by agarose gel electrophoresis.

10. (Currently amended) The method of Claim 1 ~~A method as claimed in any one of claims 1 to 8~~, wherein detection of the ~~product of the or each~~ amplification reaction product is by fluorescent analysis in which amplification of HCV-1 specific nucleic acid causes fluorescence of a probe.

11. (Currently amended) The method of Claim ~~A method as claimed in claim~~ 10, wherein the probe comprises the sequence:

5' FCG CIA CCC AAC ICT ACT IGG CTA GT 3' (*L1*, SEQ ID NO:6) where F=6-FAM,3'-T+TAMRA.

12. (Currently amended) The method of Claim 1 ~~A method as claimed in any one of claims 1 to 6~~, wherein detection of the ~~product of the or each~~ amplification reaction product is by one or more molecular beacon primers.

13. (Currently amended) The method of Claim ~~A method as claimed in claim~~ 12, wherein the molecular beacon primer comprises the sequence:

5' FCA CCT TCA CCC TCA GAA GGM GCC GCT CAA TGC CTG GAG 3' (F=FAM; M=MeREDdU and U=Uracil) (*MBP-LR-1*, SEQ ID NO:7).

14. (Currently amended) The method of Claim ~~A method as claimed in claim~~ 13, wherein the molecular beacon primer is a forward primer and the reverse primer comprises the sequence:

5' GCA GTA CCA CAA GGC CTT TCG C 3' (*UTR-R2*, SEQ ID NO:2).

15. (Currently amended) The method of Claim ~~A method as claimed in claim 12, 13 or 14 when appended to claim~~ 2, wherein the primers that ~~which~~ anneal to a region of the 5' NCR that ~~which~~ is conserved between all HCV genotypes comprise the following sequences:

Forward: 5' FCA CCT TCA CCC TCA GAA GGM GCG UCT AGC CAT GGC GTT AG 3' (F=FAM; M=MeREDdU and U=Uracil) *MBP-LR-ALL*, SEQ ID NO:8

Reverse: 5' GCA GTA CCA CAA GGC CTT TCG C 3' (*UTR-R2*, SEQ ID NO:2).

16. (Currently amended) A kit for detecting HCV genotype 1 (HCV-1) in a sample, comprising ~~comprising:~~ at least one primer that ~~which~~ anneals specifically to the 5' noncoding region (5' NCR) of the HCV-1 genome.

17. (Canceled)

18. (Currently amended) A nucleotide suitable for use in an amplification reaction comprising one of the following sequences:

5' CGT CTA GCC CTG GCG TTA G 3' (*UTR-L2*, SEQ ID NO:3)

5' GCA GTA CCA CAA CAA GGC CTT TCG C 3' (*UTR-R2*, SEQ ID NO:2)

5' GGA ACT ACT GTC TTC ACG C 3' (*UTR-L1*, SEQ ID NO:4)

5' ACG GTC TAC GAG ACC TC 3' (*UTR-R1*, SEQ ID NO:5)

5' CCI CTC AAT GCC TGG AG 3' (*Spec-1*, SEQ ID NO:1)

5' FCA CCT TCA CCC TCA GAA GGM GCC GCT CAA TGC CTG GAG 3' (F=FAM; M=MeREDdU AND U=Uracil) (*MBP-LR-1*, SEQ ID NO:7)

5' FCA CCT TCA CCC TCA GAA GGM GCG UCT AGC CAT GGC GTT AG 3' (F=FAM; M=MeREDdU AND U=Uracil) *MBP-LR-ALL*, SEQ ID NO:8.

19. (Currently amended) A pair of primers comprising a nucleotide molecules having the following sequence:

Forward: 5' CGT CTA GCC ATG GCG TTA G 3' (*UTR-L2*, SEQ ID NO:3)

Reverse: 5' GCA GTA CCA CAA GGC CTT TCG C 3' (*UTR-R2*, SEQ ID NO:2)

Forward: 5' GGA ACT ACT GTC TTC ACG C 3' (*UTR-L1*, SEQ ID NO:4)

Reverse: 5' ACG GTC TAC GAG ACC TC 3' (*UTR-R1*, SEQ ID NO:5)

Forward: 5' CCI CTC AAT GCC TGG AG 3' (*Spec-1*, SEQ ID NO:1)

Reverse: 5' GCA GTA CCA CAA GGC CTT TCG C 3' (*UTR-R2*, SEQ ID NO:2)

Forward: 5' FCA CCT TCA CCC TCA GAA GGM GCC GCT CAA TGC CTG GAG 3' (F=FAM; M=MeREDdU AND U=Uracil) (*MBP-LR-1*, SEQ ID NO:7)

Reverse: 5' GCA GTA CCA CAA GGC CTT TCG C 3' (*UTR-R2*, SEQ ID NO:2)

Forward: 5' FCA CCT TCA CCC TCA GAA GGM GCG UCT AGC CAT GGC GTT AG 3' (F=FAM; M=MeREDdU AND U=Uracil) *MBP-LR-ALL*, SEQ ID NO:8

Reverse: 5' GCA GTA CCA CAA GGC CTT TCG C 3' (*UTR-R2*, SEQ ID NO:2).

20. (Currently amended) A nucleotide molecule suitable for use as a probe comprising the sequence:

5' FCG CIA CCC AAC ICT ACT IGG CTA GT 3' (*L1*, SEQ ID NO:6) (where F=6-FAM,3'-T+TAMRA).

21. (Currently amended) A method of differentiating HCV genotype 1 (HCV-1) from HCV genotypes 2 and 3 (HCV-2 and HCV-3) in a sample, comprising:

subjecting the sample to an amplification reaction using at least one primer that ~~which~~ anneals to the genome of HCV, a polymerase having a 5'-3' exonuclease activity and an oligonucleotide probe, wherein the ~~which~~ probe anneals specifically to the 5' noncoding region (5' NCR) of the HCV-1 genome and wherein the probe ~~which~~ incorporates a modified nucleotide having a fluorescent characteristic that ~~which~~ is modified by one or more neighboring nucleotides; and

detecting a change in fluorescence as the oligonucleotide probe is degraded by the exonuclease activity of the polymerase as the polymerase extends the primer and modification of the fluorescent characteristic of the modified nucleotide is reduced.

22. (New) The kit of Claim 16, wherein the primer allows for amplification by the polymerase chain reaction (PCR) or reverse transcriptase polymerase chain reaction (RT-PCR).

23. (New) The kit of Claim 16, further comprising a second primer, wherein the primer pair allow for an amplification reaction that a region of the 5' NCR that is conserved between all HCV genotypes.

24. (New) The kit of Claim 23, wherein the primers have the following sequences:

Forward: 5' CGT CTA GCC ATG GCG TTA G 3' (*UTR-L2*, SEQ ID NO:3)
Reverse: 5' GCA GTA CCA CAA GGC CTT TCG C 3' (*UTR-R2*, SEQ ID NO:2).

25. (New) The kit of Claim 16, further comprising reagents and primers suitable a preliminary amplification reaction to isolate HCV material using primers universal for all HCV genotypes.

26. (New) The kit of Claim 25, wherein the primers comprise the following sequences:
Forward: 5' GGA ACT ACT GTC TTC ACG C 3' (*UTR-L1*, SEQ ID NO:4)
Reverse: 5' ACG GTC TAC GAG ACC TC 3' (*UTR-R1*, SEQ ID NO:5).

27. (New) The kit of Claim 23, wherein the forward primer for the amplification reaction anneals specifically to the 5' noncoding region (5' NCR) of the HCV-1 genome and the reverse primer comprises the sequence: CCI CTC AAT GCC TGG AG 3' (*Spec-1*, SEQ ID NO:1).

28. (New) The kit of Claim 23, wherein the forward primer for the amplification reaction anneals specifically to the 5' noncoding region (5' NCR) of the HCV-1 genome and the reverse primer comprises the sequence: 5' GCA GTA CCA CAA GGC CTT TCG C 3' (*UTR-R2*, SEQ ID NO:2).

29. (New) The kit of Claim 23, further comprising reagents sufficient for detection of the amplification products by fluorescent analysis in which amplification of HCV-1 specific nucleic acid causes fluorescence of a probe.

30. (New) The kit of Claim 29, wherein the probe comprises the sequence:
5' FCG CIA CCC AAC ICT ACT IGG CTA GT 3' (*L1*, SEQ ID NO:6)
where F=6-FAM,3'-T+TAMRA.